



#4
cont

SEQUENCE LISTING

(1) GENERAL INFORMATION:

(i) APPLICANT:

SOUPE, Jerome
BEUDEKER, Robert Franciscus

(ii) TITLE OF INVENTION:

PROCESS FOR THE PRODUCTION OF ALCOHOLIC BEVERAGES USING MALTSEED

(iii) NUMBER OF SEQUENCES: 8

(iv) CORRESPONDENCE ADDRESS:

(A) ADDRESSEE: LADAS & PARRY
(B) STREET: 26 WEST 61 STREET
(C) CITY: NEW YORK
(D) STATE: NY
(E) ZIP CODE: 10023
(F) COUNTRY: USA

(iv) COMPUTER READABLE FORM:

(A) MEDIUM TYPE: Floppy disk
(B) COMPUTER: IBM PC compatible
(C) OPERATING SYSTEM: Microsoft Windows for Workgroups
(D) SOFTWARE: WordPerecet 8

(vi) CURRENT APPLICATION DATA:

(A) APPLICATION NUMBER: 09/970,616
(B) FILING DATE: 04-OCT-2001
(C) CLASSIFICATION: 435

(vi) PRIOR APPLICATION DATA:

(A) APPLICATION NUMBER: 09/230,590
(B) FILING DATE: 28-APR-1999

(vii) PRIOR APPLICATION DATA:

(A) APPLICATION NUMBER: PCT/EP97/04016
(B) FILING DATE: 23-JUL-1997

(vi) PRIOR APPLICATION DATA:

(A) APPLICATION NUMBER: EP 96202195.2
(B) FILING DATE: 05-AUG-1996

(viii) ATTORNEY/AGENT INFORMATION:

(A) NAME: MASS, CLIFFORD J.
(B) REGISTRATION NO. 30,086
(C) REF./DOCKET NO.: U-012094-9

(ix) TELECOMMUNICATION INFORMATION:

(A) TELEPHONE NUMBER: (212) 708-1890
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(C) TELEX NUMBER: 233288

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(2) INFORMATION FOR SEQ ID NO: 1:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 557 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: double
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(ix) FEATURE:

- (A) NAME/KEY: CDS
- (B) LOCATION: 1..555
- (D) OTHER INFORMATION: /product= "mature protein"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 1:

| | |
|--|-----|
| ATG AGC GCG GGA ATC AAC TAC GTC CAG AAC TAC AAT GGC AAC CTC GGC Met Ser Ala Gly Ile Asn Tyr Val Gln Asn Tyr Asn Gly Asn Leu Gly | 48 |
| 1 5 10 15 | |
| GAC TTT ACT TAC GAC GAG TCA GCG GGA ACT TTC AGC ATG TAT TGG GAG Asp Phe Thr Tyr Asp Glu Ser Ala Gly Thr Phe Ser Met Tyr Trp Glu | 96 |
| 20 25 30 | |
| GAT GGC GTG TCC TCA GAC TTC GTC GTG GGA CTG GGC TGG ACC ACT GGA Asp Gly Val Ser Ser Asp Phe Val Val Gly Leu Gly Trp Thr Thr Gly | 144 |
| 35 40 45 | |
| TCA TCC AAT GCG ATC ACC TAC AGC GCC GAG TAC TCC GCG TCA GGA TCA Ser Ser Asn Ala Ile Thr Tyr Ser Ala Glu Tyr Ser Ala Ser Gly Ser | 192 |
| 50 55 60 | |
| GCC TCC TAT CTG GCC GTG TAC GGA TGG GTG AAC TAC CCG CAG GCC GAG Ala Ser Tyr Leu Ala Val Tyr Gly Trp Val Asn Tyr Pro Gln Ala Glu | 240 |
| 65 70 75 80 | |
| TAC TAC ATC GTG GAG GAT TAC GGA GAT TAC AAC CCA TGC AGC TCA GCG Tyr Tyr Ile Val Glu Asp Tyr Gly Asp Tyr Asn Pro Cys Ser Ser Ala | 288 |
| 85 90 95 | |
| ACC TCC CTC GGA ACT GTG TAC AGC GAC GGC TCC ACC TAC CAG GTC TGC Thr Ser Leu Gly Thr Val Tyr Ser Asp Gly Ser Thr Tyr Gln Val Cys | 336 |
| 100 105 110 | |
| ACC GAC ACC CGC ACT AAC GAG CCG TCA ATC ACC GGC ACT TCC ACC TTC Thr Asp Thr Arg Thr Asn Glu Pro Ser Ile Thr Gly Thr Ser Thr Phe | 384 |
| 115 120 125 | |

| | |
|---|-----|
| ACC CAG TAC TTC AGC GTG CGC GAG TCC ACT CGC ACC TCA GGA ACC GTG | 432 |
| Thr Gln Tyr Phe Ser Val Arg Glu Ser Thr Arg Thr Ser Gly Thr Val | |
| 130 135 140 | |
| ACC GTC GCG AAC CAC TTC AAC TTC TGG GCG CAG CAC GGA TTC GGC AAC | 480 |
| Thr Val Ala Asn His Phe Asn Phe Trp Ala Gln His Gly Phe Gly Asn | |
| 145 150 155 160 | |
| AGC GAC TTT AAC TAC CAG GTG GTC GCA GTG GAG GCA TGG TCA GGA GCG | 528 |
| Ser Asp Phe Asn Tyr Gln Val Val Ala Val Glu Ala Trp Ser Gly Ala | |
| 165 170 175 | |
| GGC TCA GCG TCC GTC ACT ATC AGC TCC TG | 557 |
| Gly Ser Ala Ser Val Thr Ile Ser Ser | |
| 180 185 | |

(2) INFORMATION FOR SEQ ID NO: 2:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 185 amino acids
- (B) TYPE: amino acid
- (C) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 2:

| | |
|---|--|
| Met Ser Ala Gly Ile Asn Tyr Val Gln Asn Tyr Asn Gly Asn Leu Gly | |
| 1 5 10 15 | |
| Asp Phe Thr Tyr Asp Glu Ser Ala Gly Thr Phe Ser Met Tyr Trp Glu | |
| 20 25 30 | |
| Asp Gly Val Ser Ser Asp Phe Val Val Gly Leu Gly Trp Thr Thr Gly | |
| 35 40 45 | |
| Ser Ser Asn Ala Ile Thr Tyr Ser Ala Glu Tyr Ser Ala Ser Gly Ser | |
| 50 55 60 | |
| Ala Ser Tyr Leu Ala Val Tyr Gly Trp Val Asn Tyr Pro Gln Ala Glu | |
| 65 70 75 80 | |
| Tyr Tyr Ile Val Glu Asp Tyr Gly Asp Tyr Asn Pro Cys Ser Ser Ala | |
| 85 90 95 | |
| Thr Ser Leu Gly Thr Val Tyr Ser Asp Gly Ser Thr Tyr Gln Val Cys | |
| 100 105 110 | |
| Thr Asp Thr Arg Thr Asn Glu Pro Ser Ile Thr Gly Thr Ser Thr Phe | |
| 115 120 125 | |
| Thr Gln Tyr Phe Ser Val Arg Glu Ser Thr Arg Thr Ser Gly Thr Val | |
| 130 135 140 | |

| | | | |
|---|-----|-----|-----|
| Thr Val Ala Asn His Phe Asn Phe Trp Ala Gln His Gly Phe Gly Asn | | | |
| 145 | 150 | 155 | 160 |
| Ser Asp Phe Asn Tyr Gln Val Val Ala Val Glu Ala Trp Ser Gly Ala | | | |
| 165 | 170 | 175 | |
| Gly Ser Ala Ser Val Thr Ile Ser Ser | | | |
| 180 | 185 | | |

(2) INFORMATION FOR SEQ ID NO: 3:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 71 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: cDNA
- (iii) HYPOTHETICAL: NO
- (iii) ANTI-SENSE: NO
- (vi) ORIGINAL SOURCE:
 - (A) ORGANISM: Nicotiana tabacum

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 3:

| | |
|---|----|
| AACTTCCTCA AGAGCTTCCC CTTTTATGCC TTCCTTTGTT TTGGCCAATA CTTTGTAGCT | 60 |
| GT ₁₀ TACGCATG C | 71 |

(2) INFORMATION FOR SEQ ID NO: 4:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 80 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: cDNA
- (iii) HYPOTHETICAL: NO
- (iii) ANTI-SENSE: YES
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 4:

| | |
|--|----|
| CCATGGCATG CGTAACAGCT ACAAAAGTATT GGCCAAAACA AAGGAAGGCA TAAAAGGGGA | 60 |
| AGCTCTTGAG GAAGTTCATG | 80 |

(2) INFORMATION FOR SEQ ID NO: 5:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 21 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 5:

ATGGATGGCA TGCTGTTGTA G

21

(2) INFORMATION FOR SEQ ID NO: 6:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 21 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 6:

GCACAAATTCT CGAGGAGACC G

21

(2) INFORMATION FOR SEQ ID NO: 7:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 21 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 7:

CCTCTTAAGG ATCCAATGCG G

21

(2) INFORMATION FOR SEQ ID NO: 8:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 21 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

(iii) HYPOTHETICAL: NO

(iii) ANTI-SENSE: NO

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 8:

CTTATCTGAA TTCGGAAGCT C

21